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W. SCOTT PETTY
KING & SPALDING
191 PEACHTREE STREET
45TH FLOOR
ATLANTA, GA 30303-1763

EXAMINER	
EL CHANTI, HUSSEIN A	
ART UNIT	PAPER NUMBER
2157	

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13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/456,894	LUM, CLINTON EDWARD	
	Examiner	Art Unit	
	Hussein A El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 December 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-58* is/are rejected.

7)☒ Claim(s) *45* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5,7-9,12* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is responsive to application filed on Dec 7, 1999. Claims 1-58 are pending examination.

Specification

2. Claim 45 is objected to because of the following informalities: The fifth line of the claim states "being providing". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Frailong et al., U.S. Patent No. 6,496,858 (referred to hereafter as Frailong).

Frailong teaches the invention as claimed including a method of reconfiguring a network interface device and connecting the device to an external network.

As to claim 1, Frailong teaches a machine readable-medium having stored thereon sequences of instructions which when executed by a processor cause the processor to perform the acts of:

disabling access to at least a first section of code in a network driver interface, wherein the network driver interface provides for communication between one

or more media access control units and one or more protocol drivers in a computer system according to a set of bindings (see col. 8 lines 23-40, where the data store contains a database representing a set of bindings);

patching the first section of code to cause the insertion of rerouting driver into the one or more communication paths provided by the set of bindings (see col. 8 lines 23-40); and

re-enabling access to the patched first section of code (see col. 8 lines 23-40).

As to claim 2, Frailong teaches the machine readable-medium of claim 1 wherein the patching is static patching (see col. 18 lines 6-30, the configuration file or patch is downloaded and is applied only if the reconfiguration is complete and succeeds).

As to claim 3, Frailong teaches the machine readable-medium of claim 2 wherein the static patching includes inserting a template jump from the network driver interface to a template in the rerouting driver (see col. 15 lines 22-26 and col. 16 lines 3-10, where the gateway interface device is the network driver interface and the specified FTP site contains the rerouting driver).

As to claim 4, Frailong teaches the machine readable-medium of claim 3 wherein the template jumps are inserted in the network driver interface so that a CALL instruction to the protocol driver is replaced with a JUMP to the template in the rerouting driver, the template containing the CALL instruction (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 5, Frailong teaches the machine readable-medium of claim 2 wherein the patching the first section of code creates at least one new binding between the network driver interface and the rerouting driver (see col. 4 lines 49-65 and col. 5 lines 49-65).

As to claim 6, Frailong teaches the machine readable-medium of claim 5 wherein the at least one new binding provides for communication between one or more media access control units and a capturing unit in the rerouting driver (see col. 4 lines 49-65 and col. 5 lines 41-47, where the gateway interface device is the capturing unit).

As to claim 7, Frailong teaches the machine readable-medium of claim 6 wherein the capturing unit is used to intercept communications over the at least one new binding (see col. 4 lines 49-65 and col. 5 lines 41-47).

As to claim 8, Frailong teaches the machine readable-medium of claim 1 wherein the patching is dynamic patching (see col. 8 lines 40-45).

As to claim 9, Frailong teaches the machine readable-medium of claim 8 wherein the dynamic patching includes establishing a new binding between at least one media access control unit and dynamic patching code in the rerouting driver and inserting a template jump in the network driver interface to a template in the rerouting driver (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 10, Frailong teaches the machine readable-medium of claim 9 wherein the template jumps are inserted in the network driver interface so that a CALL instruction to the protocol driver is replaced with a JUMP to the template in the rerouting

driver, the template containing the CALL instruction (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 11, Frailong teaches a computer implemented method comprising:

transmitting from a remote host to a first target computer on a network an installation application and a rerouting driver (see col. 18 lines 5-30);

transmitting from the remote host to the first target computer a command to cause the first target computer to execute the installation application (see col. 18 lines 5-30);

the first target computer, responsive to receipt of the command, executing the installation application, wherein the first target computer includes a network driver interface that provides for communication between one or more media access control units and one or more protocol drivers according to a set of bindings (see col. 18 lines 5-30 and col. 8 lines 23-40, where the data store contains a database representing a set of bindings); and

the first target computer responsive to executing the installation application causing the modification of the network driver interface to insert the rerouting driver into the one or more communication paths provided by the set of bindings without restarting the first target computer (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 18, Frailong teaches a computer system comprising:

a protocol driver (see col. 12 lines 40-47);

a media access control unit (see col. 15 lines 22-26 and col. 16 lines 3-10, where the gateway interface device is the media control unit);

a network driver interface to store a first binding defining a communication path between the protocol driver and the media access control unit, the network driver interface coupled to communicate packets with the media access control unit, the network driver interface patched to communicate the packets with a rerouting driver (see col. 15 lines 22-26 and col. 16 lines 3-10); and

the rerouting driver being coupled to communicate the packets with the protocol driver (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 21, Frailong teaches the computer system of claim 18 wherein the rerouting driver further comprising a capture unit to store in a buffer one or more of the packets for evaluation (see col. 18 lines 6-30 where the gateway interface verifies if the reconfiguration is applicable or not).

As to claim 22, Frailong teaches the computer system of claim 18 wherein the network interface to also store a second binding defining a communication path between the rerouting driver and the media access control unit and the capture unit to store in the buffer the packets destined for the rerouting driver (see col. 12 lines 50-col. 13 lines 15).

As to claim 23, Frailong teaches a rerouting driver for remotely installing network drivers and software without restarting the computer system following installation, the computer system having an operating system in which a network driver interface provides communication of information between at least one media access control unit and at least one protocol driver on the computer system, the rerouting driver comprising:

control code, for controlling the rerouting driver (see col. 12 lines 40-47);

binding code, for establishing at least one binding at the network driver interface so that the rerouting driver is bound to at least one media access control unit (see col. 12 lines 50-col. 13 lines 15);

patching code, for inserting template jumps into at least a first section of code in the network driver interface, the template jumps providing jumps to templates in the rerouting driver so that information from at least one media access control unit destined for at least one protocol driver is rerouted to the rerouting driver (see col. 15 lines 22-26 and col. 16 lines 3-10, where the gateway interface device is the network driver interface and the specified FTP site contains the rerouting driver);

at least one template, for receiving information from at least one template jump in the network driver interface (see col. 15 lines 22-26 and col. 16 lines 3-10);

inserted code, for evaluating rerouted information received by the template jumps (see col. 18 lines 6-30 where the gateway interface verifies if the reconfiguration is applicable or not).

As to claim 24, Frailong teaches the rerouting driver of claim 23 wherein the control code identifies a starting memory address of the network driver interface instruction code and disables access to the first section of code and further wherein the patching code following the disabling access operates to overwrite the first section of code and additional pre-determined memory addresses so the all the pre-determined memory addresses are patched (see col. 8 lines 23-40, where the data store contains a database representing a set of bindings).

As to claim 25, Frailong teaches the rerouting driver of claim 23 wherein the patching code responsive to receipt of information being sent from the network driver interface determines the instruction code address that sent the information and overwrites the first section of code at that address so that memory addresses are incrementally patched as information is received from the network driver interface (see col. 8 lines 23-40).

As to claim 26, Frailong teaches a method for disabling and re-enabling access to code in a multiprocessor system having a shared memory and a network driver interface comprising:

selecting a first section of code in a first central processing unit that is to be modified (see col. 5 lines 25-40 and col. 6 lines 1-5, the processor being any of the gateway interface device);

writing the first section of code into the cache memory of the first central processing unit (see col. 5 lines 25-40);

overwriting a portion of the first section of code in cache memory with blocking code to create a first version of code (see col. 5 lines 25-40);

writing the first version of code into shared memory (see col. 5 lines 25-40, shared memory being any of the gateway interface device);

modifying the first version of code in the cache memory to create a second version of code, wherein a portion of the code following the blocking code is overwritten with template jumps to effect a static patch of the network driver interface (see col. 5 lines 25-40);

writing the second version of code into shared memory (see col. 5 lines 25-40);

modifying the second version of code in the cache memory with code to create a third version of code, wherein the blocking code is overwritten to remove the blocking code (see col. 8 lines 55-67, the access can be set by setting the configuration for the code to be published or not); and

writing the third version of code into shared memory (see col. 8 lines 40-67).

As to claim 27, Frailong teaches the method of claim 26 wherein the first section of code is located in the network driver interface (see col. 5 lines 25-40 and col. 6 lines 1-5).

As to claim 28, Frailong teaches a machine readable medium having stored therein instructions which when executed cause a set of one or more processors to perform the following:

disabling access to a first section of code, the first section of code to be executed when to provide a communication path between a media access control unit and an application the first section of code including a generic call (see col. 8 lines 23-40); and

overwriting the first section of code with a second section of code whose execution causes execution flow to be rerouted to a third section of code in a rerouting driver, the second section of code being larger than the first section of code, the third section of code when executed completing the communication path and returning

execution flow, the third section of code including additional code not present in the first section of code that is now inserted into the communication path (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 29, Frailong teaches the machine-readable medium of claim 28 wherein the second section of code contains a template jump to a template in the third section code (see col. 15 lines 22-26 and col. 16 lines 3-10).

As to claim 30, Frailong teaches a distributed packet based security system installed and enabled without shutdown or restart across a plurality of computers in a network that enables each of said plurality of computers to evaluate packets received over the network according to a predetermined standard and selectively allow transmission of such packets from the network to a protocol driver (see col. 8 lines 23-40).

As to claim 31, Frailong teaches the system of claim 30 wherein the install is performed using a patching technique (see col. 8 lines 40-45).

As to claim 32, Frailong teaches the system of claim 30 wherein each of the plurality of computers form a shared memory buffer between a user space that stores first code of the distributed packet based security system and a system address space that stores the protocol driver and second code of the distributed packet based security system, wherein said second code is coupled to said shared memory to store information regarding packets received over the network and wherein said first code is coupled to the shared memory buffer to evaluate information stored in the shared

memory buffer (see col. 18 lines 6-30 where each gateway interface verifies if the reconfiguration is applicable or not).

As to claim 33, Frailong teaches the system of claim 30 wherein the install is performed remotely from a host computer on said network (see col. 18 lines 5-30).

As to claim 34, Frailong teaches a computer system comprising:

a plurality of networked computers each including:

a media access control unit coupled to the physical transmission medium of the network to extract packets from data provided across said medium (see col. 15 lines 22-26 and col. 16 lines 3-10, where the gateway interface device is the media control unit);

a protocol driver coupled to the media access control unit (see col. 12 lines 40-47); and

filter code installed in between the media access control unit and the protocol driver and enabled without shutdown or restart to evaluate said packets and selectively allow continued transmission of different ones of said packets to the protocol driver (see col. 18 lines 6-30 where the gateway interface verifies if the reconfiguration is applicable or not).

As to claims 38 and 42, Frailong teaches a computer implemented method and a machine readable medium comprising:

distributing from a remote host across a network to a plurality of computers code to be installed by each of said plurality of computers, each of said plurality of computers including routines to be executed to provide a communication

path between a media access control unit coupled to the network and a protocol driver said communication path for packets transmitted across said network (see col. 12 lines 40-47);

transmitting from the remote host to each of the plurality of computers a command to cause each of the plurality of computers to execute said code; and

each of the plurality of computers responsive to said command performing (see col. 18 lines 5-30),

installing a driver in the communication path between the media access control unit and the protocol driver, said installed driver being enabled without restart of said computer to evaluate selectively allowing continued transmission of different ones of said packets received over said network along the communication path (see col. 18 lines 5-30).

As to claim 45, Frailong teaches a computer implemented method comprising:

installing into each of a plurality of computers on a network code that is part of a distributed packet security system, said code being installed such that the packets transmitted across sad network to a given one of said plurality of computers is received by said code before being provided to a protocol driver (see col. 18 lines 5-30);

at least the first of said plurality of computers without being shutdown or restarted (see col. 8 lines 23-40);

receiving a packet from said network (see col. 18 lines 5-30); and

said code executing on said first computer selectively forwarding said packet onto the protocol driver depending upon parameters of the distributed packet base security system (see col. 18 lines 5-30).

As to claim 48, Frailong teaches a machine-readable medium comprising:

installing and enabling said code (see col. 8 lines 23-40);

wherein said code selectively forwards said packet onto the protocol driver depending upon parameters of the distributed packet base security system (see col. 8 lines 23-40).

As to claim 51, Frailong teaches a computer implemented method comprising:

installing into each of a plurality of computers on a network first and second code that is part of a distributed packet security system (see col. 8 lines 23-40);

at least the first of said plurality of computers without being shutdown or restarted (see col. 8 lines 23-40);

receiving a packet from said network (see col. 18 lines 5-30);

said second code storing at least certain information from said packet into a shared memory buffer (see col. 16 lines 3-20, the FTP site is the shared memory); and

said first code accessing information from said shared memory buffer (see col. 18 lines 5-30).

As to claim 55, Frailong teaches said machine-readable medium comprising:

installing and enabling without shutdown or restart into each of a plurality of computers on a network first and second code that is part of a distributed packet

security system (see col. 8 lines 23-40 and col. 16 lines 3-20, where the FTP site is the system address space and the gateway interface device is the user address space);

wherein said second code when executed stores at least certain information from said packet into a shared memory buffer between the user address space and the system address space (see col. 16 lines 20-27, where the client's storage area where the configuration files are stored is the shared memory buffer); and

wherein said first code when executed by said first computer accesses said information from said shared memory buffer (see col. 16 lines 3-20, configuration is applied).

4. Claims 12-17, 19, 20, 35-37, 39-41, 43, 44, 46, 47, 49, 50, 52-54 and 56-58 do not teach or define any new limitations above claims 1-11 and 30-33 and therefore are rejected for similar reasons.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Initializing And Reconfiguring A Secure Network Interface, U.S. Patent No. 6,073,172 by Frailong et al.
- Method And Apparatus For Master-Slave Control In A Educational Classroom Communication Network, U.S. Patent No. 6,195,687 by Greaves et al.
- Mechanism For Maintaining Constant Permissions For Multiple Instances Of A Device Within A Cluster, U.S. Patent No. 6,173,413 by Slaughter et al.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein El-chanti whose telephone number is (703)305-4652. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703)308-7562. The fax phone numbers for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Hussein El-chanti

Sep 25, 2003

ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100